

# **CONSERVATION AND OPEN SPACE ELEMENT (1985-2000)**



## **volume VII**

Recommended for Adoption by the Recreation and Parks Commission on September 29, 1982

Recommended for Adoption by the Planning Commission on November 12, 1985

Adopted by the Redding City Council on December 17, 1985

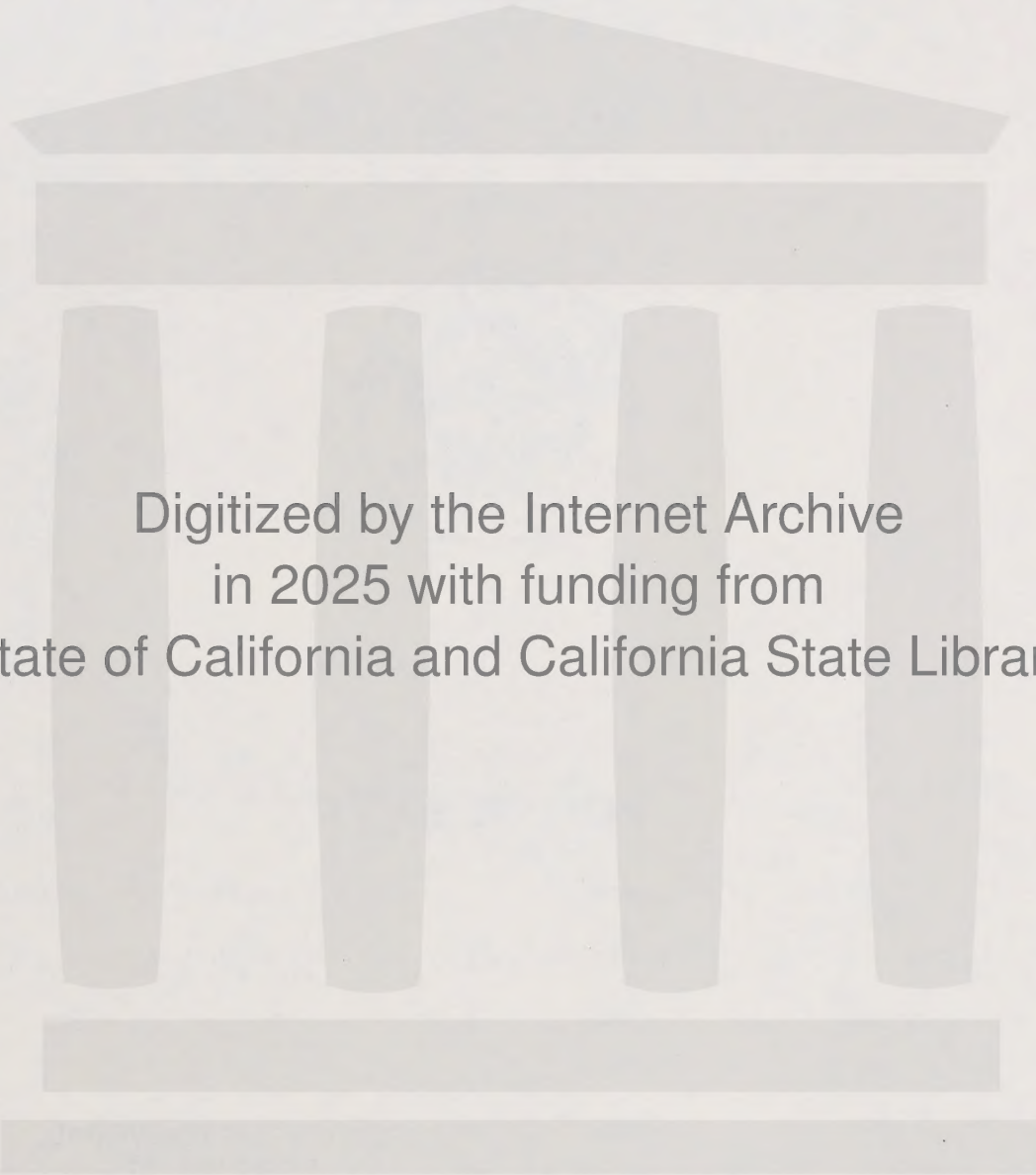
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RESOLUTION NO. 85-270

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF REDDING AMENDING THE GENERAL PLAN OF THE CITY OF REDDING BY ADOPTING A NEW CONSERVATION AND OPEN SPACE ELEMENT.

WHEREAS, following the required public hearings therefor, the Planning Commission of the City of Redding has recommended to the City Council that the Conservation and Open Space Element of the City's General Plan be amended by adopting a new Conservation and Open Space Element; and

WHEREAS, following the required notices in accordance with law, the City Council has held public hearings on said recommendations and has carefully considered the evidence at said hearings;

NOW, THEREFORE, BE IT RESOLVED as follows:

1. The City Council has reviewed and found that the environmental assessment for the new element was adequate and that there was no significant impact on the environment, and further found that a Negative Declaration should be adopted.

2. The City Council does hereby delete the existing Conservation and Open Space Element of the General Plan of the City of Redding and adopt the new Conservation and Open Space Element as shown in Exhibit "A" attached hereto.

I HEREBY CERTIFY that the foregoing resolution was introduced and read at a regular meeting of the City Council of the City of Redding on the 16th day of December, 1985, and

was duly adopted at said meeting by the following vote:

AYES:	COUNCIL MEMBERS:	Demsher, Fulton, Gard, Pugh & Kirkpatrick
NOES:	COUNCIL MEMBERS:	None
ABSENT:	COUNCIL MEMBERS:	None
ABSTAIN:	COUNCIL MEMBERS:	None

Howard D. Kirkpatrick  
HOWARD D. KIRKPATRICK, Mayor  
City of Redding

ATTEST:

Ethel A. Nichols  
ETHEL A. NICHOLS, City Clerk

FORM APPROVED:

Randall A. Hays  
RANDALL A. HAYS, City Attorney

## TABLE OF CONTENTS

	Page
I. INTRODUCTION . . . . .	1
A. Purpose . . . . .	1
B. Authority . . . . .	1
C. Scope . . . . .	1
II. NATURAL RESOURCE PUBLIC CONCERNS . . . . .	3
A. Soil: Public Concerns . . . . .	3
B. Creeks and the Sacramento River: Public Concerns . . . . .	3
1. Scenic Quality . . . . .	3
2. Public Access . . . . .	3
3. Flood Plain & Flooding . . . . .	4
C. Water: Public Concerns with Water Quality and Supply . . . . .	5
D. Fish, Wildlife and Vegetation: Public Concerns . . . . .	5
E. Minerals: Public Concerns . . . . .	6
F. Agriculture: Public Concerns . . . . .	6
G. Air Quality: Public Concerns . . . . .	7
H. Hillside Watershed: Public Concerns . . . . .	7
I. Archaeological: Public Concerns . . . . .	8
J. Summary of Concerns With Open Space . . . . .	8
1. Steep Slopes and Flood Plains . . . . .	8
2. Parks Needs . . . . .	9
III. NATURAL RESOURCE GOALS, OBJECTIVES AND STANDARDS . . . . .	11
A. Soil Erosion . . . . .	11
B. Scenic Quality and Access to Creeks and the Sacramento River . . . . .	12
C. Water Quality and Supply . . . . .	13
D. Flood Plain Management . . . . .	14
E. Wildlife and Vegetation . . . . .	15

## TABLE OF CONTENTS (Cont.)

	Page
F. Minerals . . . . .	16
G. Agriculture . . . . .	18
H. Air Quality . . . . .	18
I. Watershed and Hillside Development . . . . .	19
J. Open Space . . . . .	20
K. Park Marina Drive Specific Plan . . . . .	22
IV. RECOMMENDED ACTIONS THE CITY SHOULD TAKE . . . . .	24
V. CONTENTS OF TECHNICAL APPENDIX <u>(BOUND SEPARATELY)</u>	
A. Public Concerns With Natural Resources . . . . .	
B. Appendices	
1. Sources Consulted . . . . .	
2. Redding's Creeks and Ponds . . . . .	
3. Erosion Preventative Practices . . . . .	
4. Wildlife Capability Study . . . . .	
5. Endangered Plant Species of Redding Area (illustrated) . .	
6. Model Surface Mining and Reclamation Ordinance . . . . .	
7. Model Hillside Ordinance . . . . .	
8. Model Scenic River Ordinance . . . . .	
C. Map Exhibits . . . . .	
1. Public Access to the river . . . . .	
2. Redding's Creeks and Ponds . . . . .	
3. Twenty Percent Slope Areas of Redding . . . . .	
4. Open Space Lands Managed by BLM . . . . .	
5. Prime Agricultural Soils and Existing Agricultural Farmland . . . . .	
6. Wildlife Habitat Areas . . . . .	
7. Survey of Wildlife Habitats . . . . .	
8. Air Quality Map, Sacramento Air Basin . . . . .	

9. 100 Year Flood Plain of the Sacramento River (referenced).
10. Minerals of the Redding Area . . . . .
11. Improved and Unimproved Parks, Public Open Space Owned by City of Redding and Privately Owned Recreation Open Space (referenced) . . . . .

D. Figures and Tables

1. Flood Plain Encroachment . . . . .
2. Residential Driveways for Hillside Subdivisions . . . . .
3. Rear Yard Deficiency for Hillside Subdivisions . . . . .
4. Excessive Cut Slope for Hillside Subdivisions . . . . .
5. Endangered Plant Species for the Redding Area . . . . .
6. Table 1: Permitted Building Heights by Zoning District Adjacent to River . . . . .

## I. INTRODUCTION

### A. PURPOSE

The purpose of the Conservation and Open Space Element is to prevent the wasteful exploitation and destruction of natural resources by managing resources through the preservation of open space and development of conservation programs. To accomplish this requires the identification of natural resource issues; adoption of goals, objectives, and policies; and implementation of action programs.

### B. AUTHORITY

The preparation of the Conservation and Open Space Element of the Redding General Plan is mandated by California Government Code Section 65300 and 65563. The Element was prepared pursuant to the General Plan Guidelines, Section 65302(d), 65560(b), prepared by the Office of Planning and Research.

### C. SCOPE

The Element encompasses two State mandated elements--the Conservation Element and the Open Space Element. The interaction of these elements makes it logical to combine them.

The scope of the conservation portion of the Element is the preservation and utilization of natural resources including water and its hydraulic force, agriculture, soils, rivers and other waters, fisheries, wildlife, minerals, and other natural resources. The conservation portion of the Element includes goals and objectives covering:

1. The reclamation of land and waters.
2. Flood control and damming.
3. Prevention and control of the pollution of streams and other waters.
4. Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.
5. Prevention, control, and correction of the erosion of soils and shores along all waterways.
6. Protection of watersheds and hillside developments.
7. The location, quantity, and quality of the rock, sand, and gravel resources.

The open-space portion includes:

1. Goals and objectives for preserving and managing open-space lands including steep slopes, flood plains, and parks.

2. Specific programs which the City may pursue in implementing an open-space plan.
3. An inventory of privately and publicly owned open-space lands listed in Government Code Section 65560(b) and as noted below:
  - a. Open space for the preservation of natural resources including, but not limited to, areas required for the preservation of plant and animal life including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers and streams; and watershed lands.
  - b. Open space used for the managed production of resources including, but not limited to, range land; areas required for recharge of ground-water basins; rivers and streams which are important for the management of fisheries; and areas containing major mineral deposits.
  - c. Open space for outdoor recreation including, but not limited to, areas of outstanding scenic and cultural value; areas particularly suited for park and recreation purposes including access to rivers and streams; and areas which serve as links between major recreation and open-space reservations including utility easements, banks of rivers and streams, trails, and scenic highway corridors.
  - d. Open space for public health and safety including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs, and areas required for the protection and enhancement of air quality.

The technical appendix of the Conservation and Open Space Element includes inventories of the community's resources and detailed discussions of issues relating to each natural resource. The appendix was developed for the purpose of determining goals, objectives, and standards. In a sense, it is a working document. It also includes a sample Surface Mining and Reclamation Ordinance.

Also related to this combined Element will be the Recreation Element of the General Plan and the Land Use Element. The Recreation Element will deal with open space in parks and improved open space for recreation. The Land Use Element will identify and also implement the goals of the open space portion of the Element.

## II. NATURAL RESOURCE: PUBLIC CONCERNS

The following public concerns were derived from studies presented in the technical appendix:

### A. SOIL: Public Concerns

Public concerns with erosion are as follows:

1. Uncontrolled grading causes excessive siltation and erosion and degrades water-quality.
2. Property values are sometimes adversely affected by scarification.
3. Public funds have been spent on removing erosion debris from public right-of-way (i.e. sidewalks and streets).
4. Increased flooding is sometimes caused by clogged drainage facilities.
5. Wildlife habitat and fisheries are adversely affected by excessive siltation and sedimentation.
6. Valuable topsoil is lost because of erosion.

### B. CREEKS AND THE SACRAMENTO RIVER: Public Concerns

#### 1. Scenic Quality

- a. The preservation and maintenance of riparian vegetation of all waterways, especially the Sacramento River, are becoming more critical as these corridors are developed.
- b. Modification of creek channels is becoming more frequent due to adjacent development and increased urban runoff. Without development standards, these modifications can cause down-stream flooding and loss of riparian vegetation, fisheries and wildlife, and diminished visual quality.

#### 2. Public Access

- a. As development occurs along creeks and river frontages, the potential for public access is gradually being diminished. The City has a program for acquisition or reservation of key parcels needed for access as the community continues to grow, but no funds have been budgeted.
- b. Access and public use of Kutras Lake may be lost due to infill of this private lake.
- c. A coordinated urban-trail system along the River and creeks is needed.

- d. A conflict exist between the need for vehicular access to waterways by the Mosquito Abatement District and the need to restrict unauthorized off-road vehicles.
- e. Conflicts sometimes exist between the need to provide public access to waterways and the private property owner's rights.

### 3. Flood Plain and Flooding

The key issue of the management of flood plains is the degree of risk associated with developing in flood plains. For Redding, this risk is intensified by the lack of flood-gauge history for creeks and the fact that FEMA flood-plain calculations do not include upstream urbanization or levels of confidence for projections. For example, the Sacramento River has had three "100-year floods" in a 16-year period. The risk of the three occurrences in a 16-year period is 1 percent.

Based on the flood-frequency curve for outflow of Keswick Dam, the following probabilities exist for discharges greater than 79,000 cfs:

#### FREQUENCY OF FLOOD RELEASE FROM KESWICK DAM

Event	Magnitude of Flood Release	Probability of One or More Occurrences During Following Time Periods		
		30 years	60 years	100 years
100 year	79,000 cfs	26 percent	45 percent	63 percent
110 year	90,000 cfs	24 percent	42 percent	60 percent
120 year	100,000 cfs	22 percent	39 percent	57 percent

The elevations for each of the flood events noted above will increase with the rate of discharge. For example, at a release of 90,000 cfs, substantial flooding would occur on the west side of Park Marina Drive and extend south into the South Bonnyview and Cascade area of Redding.

The issues of flood-plain management are:

- a. Abnormal rainfall over a substantial period of time could cause water to flow uncontrolled over the gates of Shasta Dam, thereby causing extensive flooding along the Sacramento River.
- b. An emergency evacuation plan for flooding and possible dam failure within the planning area has not been developed, and there has only been limited coordination between the City and the County on this issue.
- c. Some of the drainage facilities within creeks and drainage channels are not sized to a storm frequency.

- d. Some areas along creek corridors and along the River are being filled. This may cause surcharging and result in increased erosion and flooding.
- e. In many residential areas along the River, permanent structures such as fences, accessory buildings, and recreation structures are located within the 100-year flood plain. During periods of flooding, these structures could increase the severity of flood damage by restricting flood flows; and should these structures be engulfed by flood waters, they could block flood waters underneath bridge abutments downstream.
- f. As development occurs in tributary areas to creeks and the River, the capacity of some storm-water-retention basins is reduced which may increase flooding downstream.
- g. In 1946, the U. S. Bureau of Reclamation placed warning signs along the River to indicate areas that might be flooded by releases from Shasta Dam. This policy has not been extended to include Redding.
- h. The engineering calculations by the Federal Emergency Agency for the 100-year flood of Redding creeks and the River do not include the effect of upstream urbanization.

C. WATER QUALITY AND SUPPLY: Public Concerns

- 1. Contamination of ground water by septic-tank effluent is a health hazard for the south Redding area.
- 2. Potential loss of ground-water-recharging areas due to development has not been assessed.
- 3. A water-quality-improvement district may be needed for the Sulphur Creek tributary area.
- 4. Detention ponds are needed in some large development projects, but development standards have not been formulated.
- 5. The impact of agricultural-pesticides concentration near the Sacramento River and tributary creeks has not been fully assessed.
- 6. Heavy metal contamination from Spring Creek at times exceeds the safe limits for fish.
- 7. Waste-water discharge from abandoned mines represents a regional hazard.
- 8. Unregulated grading activity is causing erosion and turbid water.

D. FISH, WILDLIFE, AND VEGETATION: Public Concerns

- 1. Little is known about the relative importance of the wildlife habitat areas of Redding; thus, the consideration of the significance of one habitat area over another has not been a factor in land-use decisions.

2. Many wildlife corridors along the Sacramento River have been blocked by road and development projects.
3. A greater understanding of the economic importance of preserving wildlife relative to real-estate values, tourism, and cultural values needs to be developed.
4. Fish-spawning areas in the River are gradually being lost because of creek modification, loss of gravel recruitment, and turbid water caused by erosion and silting.
5. Significant wildlife species (e.g. deer, coyote, and bobcat) within the plan area will eventually be displaced due to gradually diminishing parcel sizes in the plan area.

E. MINERALS: Public Concerns

1. The gravel-extraction needs for the plan area to the year 2000 have not been determined nor has a program been developed to ensure that the needs can be met.
2. The City has not adopted a mineral-extraction ordinance setting forth minimum standards on behalf of gravel-extraction operators and nearby residents.
3. Gravel extraction leaves borrow pits that become mosquito-breeding areas.

F. AGRICULTURE: Public Concerns

1. Subdivision, rezoning, and general plan amendment pressures of property with prime agricultural soils are causing this resource to be urbanized.
2. Urban subdivisions near intensive agricultural uses may cause land-use conflicts between the uses involving dust, odors, dogs, motorbikes, trespassers, open gates, water distribution for residential uses versus agricultural uses, use of roads, rural public improvements versus urban public improvements (e.g. curb, gutter and sidewalk), and growth-inducing impacts of sewers.
3. Urban activity near intensive agricultural uses is diminishing the "buffer" effect of large rural residential parcels.
4. The development of urban uses on land with prime agricultural soils will cause residents of the County to rely more on the import of food instead of encouraging local self-sufficiency.
5. The City and County cannot rely on Williamson Act contracts to preserve agricultural lands because the Act is so flexible that its meaningless.
6. There is no mutual City, County, and LAFCO policy concerning the extension of sewer trunklines through or near areas that have potential for intensive agricultural uses such as Churn Creek Bottom.

#### G. AIR QUALITY: Public Concerns

The following concerns have been excerpted from the "Non-Attainment Plan for Shasta County, 1979," prepared by the Air Resources Board:

1. Air quality within the City of Redding cannot be controlled solely at the local level. A substantial amount of air pollution within the City comes from outside the City and the County.
2. Most of the relatively easy technical solutions for controlling air quality are being used. Further improvements will require controversial and often expensive measures, which may be imposed by the Federal Government and the County Air Pollution Control District.
3. The Sacramento Valley Air Basin has the greatest potential for severe air-pollution problems in the entire United States.
4. Shasta County's primary pollutant problems are ozone and suspended particulate matter. State and Federal air-quality standards for both of these categories may require the County to adopt restrictive land-use controls as part of the nonattainment plan.
5. A great deal of the particulate contribution is due to dust from unpaved roads.
6. A spread-out urban pattern will less readily support mass transit than a compact city and will result in more vehicle miles traveled and more air pollution.
7. Neither the City nor the County have implemented a bicycle network system to augment automobile transportation.

#### H. HILLSIDE WATERSHED: Public Concerns

1. Hillside development without development standards will result in the loss of soil, removal of vegetation, degradation of downstream water quality, and siltation on public right-of-way or streams. It may also result in rockfalls and unstable foundations.
2. Hillside development can produce an increase in urban runoff and cause downstream flooding.
3. Hillside subdivisions can adversely affect the natural beauty of steep slopes and block the views of adjoining residents.
4. Small hillside lots can create the need for excessive grade cuts and fills and the need for retaining walls.
5. Wild-land fires are a serious threat to hillside development, particularly on the south and west facing slopes.

## I. ARCHAEOLOGICAL: Public Concerns

The Department of Archaeology at Chico State University has determined that there are 940 recorded archaeological sites in Shasta County. This includes villages, burial grounds, and petroglyph sites. Within the planning area, there are 150 archaeological sites. One hundred thirty-three of these sites are concentrated along the Sacramento River within flood plains and open spaces denoted as "highly" sensitive.

Many archaeological sites within the Redding area have been documented and are on file in the Redding Department of Planning and Community Development. Unlike other cultural resources, archaeological sites are not publicized because the sites are subject to potting and general vandalism.

One of the more important prehistoric sites just outside the planning area is the ten acre Church Rock petroglyph site located in the northeast quadrant of the planning area. The pre-Columbian site is listed on the National Register of Historic Places.

Early archaeological interest was shown along the Sacramento River during the building of Shasta Dam; however, most archaeological work has been done outside of the major river drainage. Treganza and Heickson (1960) and later, Johnson and Skjelstad (1974) investigated the Clear Creek drainage basin. One brief report on excavations at the Wintu Pumping Plant on the Sacramento River was published in 1960. Clewett has conducted excavations of several sites, two of which appear pertinent to the area under investigations: 4-Sha-222, a large river-bank site in South Redding, and Sundahl (1976) has reported on investigations of a proposed Early Lithic site along Churn Creek.

The Benton Tract site has been recognized by the State Department of Parks and Recreation as a critical archaeological resource area that should be protected. Redding is punctuated with many archaeological sites on open-space lands which are registered with the Society of Archaeology at Chico State University. In general, there is a lack of comprehensive information and surveys of archaeological resources in the community. The lack of such a survey and protective measures has resulted in many archaeological sites being destroyed through development and vandalism.

## J. SUMMARY OF CONCERNS WITH OPEN SPACE

### 1. Steep Slopes and Flood Plains

The cost of providing open-space easements ultimately results in the loss of some property rights. For example, anytime a landowner loses density allocation to "Open Space," a reduction in potential profits occur.

In an effort to balance individual property rights with respect to the public's need for open space, the City maintains that the reclassification of land to open space must be reasonable. The term "reasonable" means that the land is not inversely condemned and that the economic devaluation is not too severe. It also implies that landowners who are similarly situated receive equal treatment. In most cases, these criteria are satisfied through land-use planning techniques.

The cost of not providing Open Space has been detailed in the preceding sections of the Element and in summary these are:

- a. Increased soil erosion and siltation and unstable building foundations.
- b. Decreased water quality due to turbid water and loss of spawning habitats and fisheries.
- c. Reduced scenic quality of hillsides because of erosion.
- d. Loss of archaeological resources to development.
- e. Reduced park and recreation potential.
- f. Land-use conflicts between extractive mineral resources and residential uses or loss of mineral resources.
- g. Decreased ability to protect agricultural uses from urban encroachment.
- h. Loss of wildlife, vegetation, and valuable watershed.
- i. Increase fire hazard by not regulating hillside development.
- j. Increased flood hazards caused by increased hillside runoff and by permitting development in the 100-year-flood-hazard boundary.
- k. Loss of public access to the River and the creeks.
- l. Decreased air quality caused by the loss of oxygen-producing vegetation.
- m. Loss of neighborhood identity, increased noise levels, and loss of privacy.
- n. Increased public expense in providing utilities that require special construction methods (i.e., flood-plain protection, sewer life station, water-booster pumps and oversizing of storm drainage).
- o. Loss of tourism and tourist dollars due to diminished resources that attract people to the community.
- p. Loss of quality of life.
- q. Increased public costs to clean streams and roads, fight fires, and respond to emergencies.

## 2. Park Needs

According to the Recreation Element (1980 - 2000), in January, 1982, there were approximately 19,800 dwelling units of all types within the General Plan area. At the City's standard of 2 acres of developed park

land for each 100 dwelling units, the current park need is 396 acres. The park-land-area supply as of this same date was as follows:

<u>Park Land</u>	<u>Area in Acres</u>
Improved	370.2
Unimproved	786.2
<u>Sub Total</u>	<u>1,156.4</u>

In addition to the 1,156.4 acres, there are currently 530.3 acres dedicated as "Greenway," which include steep hillsides and flood plains. While not technically park sites, these greenway lands can be used for trails and be a part of the scenic, natural resource.

Based on growth projections of the draft Recreation Element, the total park acreage needs for the year 2000 will be 1,474 acres. This leaves a deficit of 318 acres of future park land needed to serve a population of 217,000. Such land acquisition will be primarily for neighborhood parks of two acres or less.

### III. NATURAL RESOURCE GOALS, OBJECTIVES, AND STANDARDS

The goals, objectives, and standards of the Conservation and Open Space Element focus on the foregoing public concerns of natural resources including soils, the River, creeks, fisheries, wildlife, minerals, and other natural resources. Based on the stated concerns regarding natural resources, it is recommended that the overall guiding goals and objectives of the Conservation and Open Space Element be as follows:

#### OVERALL GOALS

PROMOTE the protection, maintenance, and use of natural resources with special emphasis on scarce resources which require special control and management.

PREVENT the wasteful exploitation, destruction, and neglect of natural resources.

RECOGNIZE that natural resources must be maintained for their ecological value as well as for their direct benefits to the public.

#### OVERALL OBJECTIVES

PRESERVE open-space land containing natural resources not only for the maintenance of the economy of the City and County but also for the assurance of the continued availability of land for the production of food and fiber, for the enjoyment of scenic beauty, and for recreation.

DISCOURAGE premature conversion of open-space land to urban uses because such conversions will greatly increase the costs of community services.

THE CITY should at the earliest possible date make definite plans for the preservation of valuable open-space land and take positive action to carry out such plans by the adoption of ordinances, rules, and regulations as authorized by the State Government Code.

#### A. SOIL EROSION GOAL, OBJECTIVES, AND POLICIES

It has been the City's long-standing policy that development should not occur on slopes exceeding a 20-percent grade and be restricted within the 100-year flood plain of the Sacramento River and certain creeks. These policies have done a great deal to protect valuable wildlife habitat and watershed from the forces of erosion. The City's subdivision, grading, and flood-plain ordinances are used as tools to implement the policy. It is recommended that the following goals, objectives, and policies be adopted to further protect the City's soils from the destructive forces of erosion:

##### Goal

Prevent environmental damage caused by erosion to downstream fisheries, wildlife habitats, water quality, storm-drain systems, and hillsides.

a. Objective

Encourage development to fit existing natural topographic features including soils, waterways, slopes, and existing mature vegetation by using the following policies and procedures or by inclusion in the City's grading ordinance:

- (1) Use "Site-Plan-Review" zoning criteria for the development of slopes with highly erosive soils or slopes exceeding 15 percent grade.
- (2) Have grading plans indicate phasing (when feasible) and incremental revegetation patterns as each phase is completed.
- (3) Use the revegetation, hydromulching, and hydroseeding standards recommended by the California Farm Advisor in the report, "Shasta County Erosion Study" 1980 (See Appendix).
- (4) Encourage the formation of storm-water improvement and maintenance districts within watershed tributary areas for the purpose of reducing storm-water sediment damage and water turbidity.

b. Objective

Revise the City's Grading Ordinance to include standards that address the following:

- (1) Installation of sediment basins, sediment traps, or similar sediment-control measures should be installed before extensive clearing and grading operations begin.
- (2) Retention of native vegetation should be retained, protected, and supplemented wherever possible to reduce erosion.
- (3) Manage surface runoff at nonerosive velocities to the point of discharge into the common natural watercourse of the drainage areas.

B. SCENIC QUALITY AND ACCESS TO CREEKS AND THE SACRAMENTO RIVER - GOALS AND OBJECTIVE

Redding should capitalize on its greatest physical asset--the Sacramento River. Lake Redding-Caldwell Memorial Park shows what can be done with the river bank where flat land is available. But not all the bank need be landscaped. Much of the wooded shoreline should be retained in its natural state for enjoyment within the area, for viewing from other locations, and for wildlife enforcement. The sparkling water, the sheer cliffs and tree-lined banks, and the network of creeks and gullies leading from the River are important scenic assets as well as potential recreational areas. Wherever possible, views of the River should be protected and enhanced; development of prominent sites with attractive, well-designed buildings should be encouraged and public access should be preserved.

## Goals

1. Maintain the scenic quality of waterways including the Sacramento River.
2. Provide public access to waterways for the purpose of creating an urban trail system for pedestrians, equestrians, and bicyclist.
3. Provide safe public access to and along the Sacramento River to promote the City's linear park concept including the Sacramento River Trail System.

## Objective

Consider the adoption of an awards program for outstanding river development projects and a "Scenic River Ordinance" with site-plan-review standards to protect scenic quality and provide public access. The Ordinance should address the following issues:

1. View of the River.
2. Bank stability, appearance, erosion, and runoff.
3. Installation of security fences along dangerous sections of waterways to discourage public access.
4. Architectural and landscape criteria for development projects.
5. Access to creeks and the River through acquisition and dedication by both open-space easement and fee title.

## C. WATER QUALITY AND SUPPLY - GOAL, OBJECTIVE, AND POLICIES

The quality of ground water and surface water in the plan area is considered to be very good. The use, conservation, supply, and distribution of water are not currently considered to be critical issues; however, without proper management, Redding can expect these issues to become growth restrictive in the future:

### Goal

Achieve and maintain a high level of water quality and an adequate supply for the future.

### Objective

Adopt a water-quality-improvement plan that provides for future water supply. The plan should include the following policies.

### Policies

1. Support action to ensure that the water supply in the basin is not disproportionally exported to other parts of the State.

2. Monitor the installation of wells that could result in heavy drawdown of ground-water aquifers and leave concentrations of mineral-bearing water.
3. Encourage the Water Quality Control Board to conduct aerial surveillance after heavy rainfall to determine the source of creek water turbidity caused by grading operations and mining.
4. Reduce surface-water contamination from active and abandoned mines by encouraging the County to adopt a strict reclamation plan in support of the policies of the State Regional Water Quality Control Board.
5. Improve runoff quality of tributary creeks to the Sacramento River by encouraging the formation of water-quality-improvement districts.
6. Encourage the development of storm-water retention ponds as part of the subdivision design process to permit settlement of urban storm water and where possible promote sheet flow through greenbelt area tributary to creeks in lieu of direct discharge.

D. FLOOD PLAIN MANAGEMENT GOALS AND OBJECTIVES

Goals

1. Discourage new development in flood-prone areas that could result in loss of life and excessive damage to property, and protect unwary buyers from purchasing land or homes in flood-prone areas.
2. Discourage encroachment into the 100-year flood plain that decreases the flood-carrying capacity of flood plains, increases flood heights, or otherwise aggravates flood problems.
3. Reduce the need for future public expenditures for construction, operation and maintenance of reservoirs, levees, and other flood-control measures and provide that those who occupy the areas of special flood hazard assume financial responsibility for their actions when such actions result in flood damage or loss.

Objectives

1. Require that uses vulnerable to floods be protected against flood damage by incorporating flood-proof construction standards in their design or by developing outside flood-prone areas at the time of their initial construction.
2. Prohibit filling, grading, dredging, or development which may individually or cumulatively cause flood damage or danger to life or property.
3. Prevent the construction of flood barriers which may unnaturally direct flood waters or raise flood levels thereby increasing flood hazards in other areas.

4. Encourage development to occur outside of flood-prone areas.
5. Reduce public liability and the need for expensive Public Works projects in flood-prone areas.
6. Ensure that adequate capacity for future urban runoff is reserved by requiring the determination of the impact of upstream urbanization on downstream properties.
7. Recognize the Sacramento River as an economic resource for tourism, commercial recreation, private recreation, and public enjoyment.
8. Ensure that, as a product of any encroachment into the flood plain, flood levels are not significantly raised on other properties resulting in a need for further encroachment to protect the property.
9. Ensure that stream velocities are not significantly increased which could cause erosion above, below, or across from an area of encroachment or realignment.

#### E. WILDLIFE AND VEGETATION GOALS, OBJECTIVES, POLICIES, AND STANDARDS

In addition to natural forces, acts of man may threaten many species of vegetation and wildlife. Such acts include the alteration or destruction of a unique habitat necessary for survival of a species; population reduction by hunting, fishing or harassment; introduction of foreign species that competes or carries diseases; and pollution of the environment.

Within the City, discretionary projects are reviewed for their impact on known sensitive habitats. This is accomplished with the initial study according to the criteria set forth by the California Environmental Quality Act (CEQA) Guidelines. Although not a regulatory control in the true sense, this process has done more to ensure wildlife considerations on a project-by-project basis than any other mechanism.

It is believed that the following goals, objectives, and policies will augment the environmental-review process for the conservation of wildlife and vegetation.

##### Goal

Encourage a balanced coexistence of man, vegetation and wildlife and preserve the riparian vegetation and wildlife habitat along the Sacramento River and all creeks.

##### Fish and Riparian Habitat Objectives, Policies, and Standards

###### a. Objective

Minimize the impact of grading activity within the 100-year flood plain of the River and all streams by employing suitable techniques and measures that prevent erosion and minimize surface runoff. When determined necessary, this should include, but not be limited to, the following policies:

### Policies

- (1) Encourage sheet flow of storm runoff through flood-plain corridors adjacent to waterways.
- (2) Promote vegetative growth near spawning pools to attract birds to control mosquitos.
- (3) Where channel modification is necessary due to the lack of feasible development alternatives, require that the channel incorporate gravel recruitment catchments at regular intervals and require the replanting of riparian vegetation along the banks.
- (4) Maintain gravels within the 100-year flood plain of the Sacramento River and Clear Creek for salmon spawning.

### b. Objective

To protect riparian habitats and to minimize erosion runoff and interference with surface water flows, the City should maintain riparian buffer areas along its streams as delineated by the 100-year flood-plain boundary prepared by the Federal Emergency Management Agency.

### Standards

- (1) New structures and developments other than public-park improvements should be located outside designated riparian buffer areas. Removal of riparian vegetation should be limited to that necessary for maintenance of flood control and drainage channels, road and bridge placement, and Mosquito Abatement District trails.
- (2) Mitigation measures for development within riparian buffer areas should at a minimum include retention of vegetation. Mitigation measures should include the replanting of disturbed areas with riparian vegetation (including such species as cottonwoods, willows, and blackberry vines).
- (3) Protect riparian areas with easement or fee dedications to create corridors along creeks and the Sacramento River as a condition of project approval.
- (4) Encourage the acquisition of significant riparian habitat along the River with the use of Federal or State funds.

## F. MINERALS GOALS, OBJECTIVE, AND POLICIES

Mineral resources within the City limits are not extensive; but within areas that will likely be annexed, they may represent a considerable economic resource that should be protected. The goals, objectives, and standards of this portion of the Element should address: (1) The need to protect mineral resources from urbanization which would prevent their extraction, and (2) protect nearby resources and urban uses from adverse impacts caused by mineral extraction.

## Goals

1. Mineral lands that have the potential for being classified as areas of statewide or of regional significance as defined by the State Mining and Reclamation Act, should be protected from preclusive and incompatible land uses so that the mineral resources within areas are available for the future.
2. Surface mining within these classified lands and designated areas should be controlled to assure that:
  - a. Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition, and readily adaptable for alternative land uses.
  - b. The production and conservation of minerals are encouraged while giving consideration to values relating to recreation, watershed, wildlife, range and forage, aesthetic enjoyment, and other environmental factors.
  - c. Residual hazards to the public health and safety area are to be eliminated.

## Objective

Adopt a surface mining and reclamation ordinance similar to the model provided in the technical appendix that identifies and protects gravel and other mineral resources within the planning area and conserves them for future extraction by including the following policies:

## Policies

1. Place mineral areas in mineral extraction, open space, or other zoning districts with standards for compatible uses and interim uses.
2. Place lands adjacent to mineral areas in open space, recreation, or other zoning districts compatible with mining.
3. Require mining operators to secure a use permit.
4. Review all proposed subdivisions and lot splits in and around designated mineral areas to ensure that they will not restrict present or future mining operations.
5. Review roads serving the mining areas to ensure they are safe and adequate in design and construction for trucking mineral resources.
6. Discourage the development of noise-sensitive uses (e.g., schools, hospitals and rest homes) near significant mineral-deposit sites.
7. Require that each use permit issued for mining operations include an approved reclamation plan, finished grading plan, and landscape plan.

8. Discourage the development of residential uses near mining areas where significant dust emission can be expected and require that the subdivision of land adjacent to active and potentially active mining operations include mitigation measures (e.g. noise, visual and air quality) in the subdivision design to buffer future residents from the impacts of mining operations.

#### G. AGRICULTURE GOALS, OBJECTIVES, AND POLICY

In setting an agricultural policy, one of the most important steps is to determine which lands should be designated for agricultural use. This involves careful analysis of soils, climate, water availability, land use, minimum lot sizes, and current and past agricultural use. It also requires identification of lands that technically have agricultural potential but are committed to other uses, are severely constrained for agricultural use because they lie within an urban service district, are isolated by urban development or have already been divided into parcels too small for economic farming, or will be needed for urbanization within the time frame of the plan. The result of this analysis is the identification of agricultural-resource areas upon which the following agricultural goals and policies should focus:

##### Goals

1. Encourage preservation of existing prime agriculture with large lots capable of supporting part-time farming for crops and the raising of livestock, and which can be protected from urban encroachment.
2. Preserve agricultural lands for the combined purposes of both large- and small-scale farming, open space, flood plain, maintaining rural lifestyle, grazing of live-stock maintenance of wildlife habitat, and to provide a holding zone for future urbanization.

##### Policy

1. Recognize and plan for the continued preservation of lands now under the Williamson Act contracts by not making provision for sewer, water, and electric service to unincorporated agricultural lands that are not already being provided with these services by special districts or are shown as agricultural on the County General Plan.

#### H. AIR QUALITY GOAL AND POLICIES

##### Goal

Protect and enhance the quality of Redding's air resource so as to promote the public health and welfare and the productive capacity of its population and natural environment.

##### Policies

1. Recognize that air quality is a regional problem and, therefore, requires regional cooperation; and adopt a joint-powers agreement between the City and County that will obligate both agencies to study

and determine the relationship between land use, population growth, and air quality so that the air basins holding capacity can be better understood.

2. At the time air-quality-monitoring information indicates that auto emissions and/or urbanization within the air basin is cummulatively degrading air quality to an unacceptable standard, then the Circulation Element, Land Use Element, and Conservation and Open Space Element should be amended to mitigate this impact to a level that is acceptable to the community.
3. Make the public aware, through the environmental-review process, that Shasta County and the Sacramento Air Basin has the highest air-pollution potential in the entire United States due to the number of inversion days per year.
4. Encourage the use of the existing public-transit system through advertising and promotional programs.
5. Modernize the existing traffic-light systems including traffic sensors to reduce commute time and lessen idling at intersections and provide new more efficient road links which better accommodate traffic patterns.
6. Decrease the amount of dust caused by grading projects and existing dirt roads by encouraging landowners within annexing areas with unimproved roads to participate in street-improvement-assessment districts.
7. Encourage the County through project review to promote the formation of assessment-pavement districts for existing unpaved roads.

#### I. WATERSHED AND HILLSIDE DEVELOPMENT GOAL AND OBJECTIVES

Excessive grading results in costly replanting of slopes to prevent erosion as well as to improve the appearance of "cut and fill" areas. Subsequent long-range cost to maintain these landscaped slopes can become prohibitive with the result that many slopes are permitted to become barren and unsightly. Severe grade cuts have also created driveway access problems, the need for expensive retaining walls, unusable rear yards, and increased road maintenance.

It is believed that the following goal, objectives, and standards will do much to remedy these conditions:

##### Goal

Recognize that hillsides are a natural resource not only to be utilized by development but to be conserved and managed as valuable watershed.

##### Objectives

1. Preserve significant features of hill areas in essentially their natural state as part of the comprehensive open-space system.

2. Encourage in hill areas, an alternative approach to conventional flat-land practices of development.
3. Promote land-use densities that diminish with increased severity of slope and are in keeping with the open-space portion of the General Plan.
4. Preserve the predominant views and visual gateways to the City, both from and of the hill areas.

J. OPEN SPACE GOAL, OBJECTIVES, AND STANDARDS

Redding now enjoys a unique environment with vast amounts of open space which cannot be duplicated or replaced if lost through inaction or ill-conceived development. To help ensure the continued maintenance of our natural environment, the Open Space and Conservation Plan should be used as a guide for development proposals and capital-improvement programs of the City. There are four categories of open-space classification shown on the land-use plan as described below. These include "Greenway," "Improved Open Space," "Scenic Open Space," and "Productive Open Space."

Improved open-space areas include existing parks within the City. In addition, the Plan suggests general locations where additional park facilities should be constructed in the future in order to comply with the standards. The Plan is not intended to pinpoint properties for future acquisition but merely suggests general locations where facilities will be needed based upon anticipated future development.

Open-space areas and greenways are illustrated in general on the Plan in those areas of the City where development is not anticipated because of steep slopes and corresponding erosion hazards. In addition, "Open Space" is shown along the Sacramento River within the flood-plain areas and along tributary drainage courses. Open Space is also shown on the Plan in those locations where open space was planned as part of a particular development. It is not intended that the boundaries of the areas shown as "Open Space" be precise. The extent of open space to be maintained on any given area will be determined at the time the precise development plans are approved for an individual project.

Historically, the preservation of open space within a city has been in the form of parks and recreation areas. This limited concept is no longer valid, as open space and conservation areas now are recognized to include a far greater variety of open-space types noted in the introduction section of the Element. Although the Federal Government has provided some technical and financial assistance to local authorities for creation of open spaces, it still requires local initiation.

As government and its constituents become increasingly aware of the need to conserve natural resources, the legal means to accomplish the stated goals will be expanded. In the interim, there are several techniques available for use in implementing a Conservation and Open Space Element. The most obvious are zoning regulations. Adoption of Hillside and Open Space ordinances and the Subdivision and Flood Plain ordinances constitute a tremendous step forward in providing means to preserve the Redding environment.

Other methods for conserving needed open space are noted in the following goals and objectives:

a. Goals

- (1) Set aside and protect those areas whose primary purpose is to be open space, either natural or improved.
- (2) Limit development in areas hazardous to human health such as flood plains and steep slopes.
- (3) Provide sufficient open space to meet the community's present and prospective needs for various aesthetic perceptions, recreation requirements, cultural activities, and economic development of natural resources.
- (4) Acquire open-space lands which greatly serve the public health, safety, and welfare.
- (5) Set aside and protect archaeological resources.

a. Objective

Adopt open-space, land-use classifications similar to those listed below that are flexible and embrace the goals and objectives of the Conservation and Open Space Element:

Land Use Standards

- (1) Greenway - Greenway is natural open space and includes slopes in excess of 20 percent and the 100-year flood plains of the Sacramento River and various creeks and streams. Because of the inherent dangers to life and property and irrevocable damage to the natural environment, these natural land and water areas should not be urbanized or altered. Each of these areas is identified by best available topographic maps and special flood-plain studies prepared by Federal Emergency Management Agency.

In addition to health and safety concerns, these natural areas serve as places in which natural flora or fauna can be maintained in their natural state. They provide relief from urbanization, reduce siltation from excessive grading, buffer various land-use activities and transportation, and can be part of our urban-trail system. Areas in excess of 20-percent slope do not carry any residential credit unless an entire parcel is so designated, in which case by use permit, one dwelling unit per 20 acres may be permitted. Areas of endangered plants or wildlife should also be designated as permanent open space. Land shown as natural open space is predominantly along the Sacramento River, Churn Creek, Sulphur Creek, Stillwater Creek, and the bluffs and creeks of west Redding. Airport approach areas may also be classified as natural open space in order to prevent damage to life and property or to prevent people from being subjected to the stress of excessive noise.

- (2) Improved Open Space - Improved open spaces consist of both private and public open space. This consists primarily of parks and golf courses. Parks, as described in the Recreation Element, include neighborhood, community, and regional parks. These areas are intended to provide urban locations for both active and passive recreation activities. School playgrounds, although depicted as institutional uses, are also considered as improved open space. Airport approaches can also be classified as improved open space.
- (3) Scenic Open Space - Scenic open-space areas are natural or improved open-space areas used to enhance the appearance of the community, such as along designated freeways, major arterials, and the Sacramento River. Such areas may also be used to buffer residential or institutional uses from freeway noise.
- (4) Productive Open Space - Productive open space consists primarily of existing agricultural land along the Sacramento River and Churn and Stillwater creeks. These areas are predominantly Class I and II soils. All of these lands are outside the City limits. The minimum parcel size for this category is 30 acres. By permit, a second residence could be placed on the property for a family member or employee of the farming enterprise. Productive open space could also be designated for forest areas on public lands in west or northwest Redding; however, none are so indicated at this time. Productive open space is deemed compatible with airport-approach areas.

#### K. PARK MARINA DRIVE SPECIFIC PLAN GOAL

The development and preservation of resources along the west bank of the River, between Highway 44 and Cypress Street bridge, has been controversial for the last 15 years. (See attached Map Exhibit "A.") Other than the recently adopted Flood Plain Ordinance, the City does not have development standards specifically for the properties, yet the City recognizes the properties as being unique because they include river flood plain, private lakes and ponds, and man-made river inlets for boat launching and wildlife areas. The history has been to react on a case-by-case basis to applications without any real sense of what should be in the future.

The property (including lakes) has been used by the public for various recreational activities including boating, swimming, golf, and fishing. The community has also assumed that the visual corridors along Park Marina Drive and vistas from Cypress Avenue and Highway 44 bridges, as well as the bluffs, will remain relatively the same. From the owner's perspective, these uses and visual amenities are transitory until such time as the property is put to a more intensive use.

At issue is the need to officially recognize the unique quality of this stretch of river frontage including ponds, lakes, and the River, and to establish public policy whether it be acquisition, partial acquisition, no acquisition, design standards, etc., within the context of the adopted General Plan.

To this end, the Planning Commission and City Council adopted the following goal to be implemented within the next five years:

Goal

A Specific Plan should be initiated and approved by the City that establishes in detail public policy along the River and the relationship of the River to the community's identity. The preferred Specific Plan should be selected after preparing three alternative development plans ranging from low-intensity use to high-intensity use.

In developing the alternatives, the property owners along Park Marina Drive shall be consulted regarding their long-term plans for development. The alternatives shall address the likelihood of trespassing on private property, as the result of requiring public access to the River, and include reasonable means of avoiding such trespassing. The consultant will also work with neighborhoods to incorporate their ideas of how the river-front property should be developed.

The preferred Specific Plan should identify development standards that may be required in addition to those that are typically required of commercial zoning districts including, but not limited to, architectural review, sign review, parking layouts, walkway standards, etc.

The preferred Specific Plan for the area should define what resources should be preserved, what should be developed, what should be acquired, the form of development, unifying themes, public issues, property rights, building heights and setbacks, wildlife values, public-access needs, vistas, landscaping, and buildable areas.

#### IV. RECOMMENDED ACTIONS THE CITY SHOULD TAKE

The following are a list of specific actions for the City to accomplish within five years after adoption of the Element:

##### A. SOIL EROSION AND HILLSIDE DEVELOPMENT

1. Revise the existing grading ordinance to include erosion-preventive standards recommended by the Shasta County Farm Advisor in the technical appendix.
2. Update the Grading Ordinance such that it addresses the issues noted in the technical appendix.
3. Adopt a hillside ordinance similar to the model ordinance in the technical appendix.

##### B. SCENIC QUALITY AND ACCESS TO CREEKS AND THE SACRAMENTO RIVER

1. Adopt a scenic-river ordinance similar to the model in the technical appendix.
2. Coordinate efforts between BLM, City of Redding, Shasta County and U. S. Forest Service to develop a river-front trail system from North Market Street to Keswick and Shasta Dams.
3. Adopt an awards program to recognize outstanding river-front development.

##### C. WATER QUALITY AND SUPPLY

1. Support activities which retain the water supply for Shasta County growth.

##### D. FLOOD PLAIN MANAGEMENT

1. Determine the surface water elevation of all 100 year flood plains with full urbanization of the General Plan.
2. Make the public aware of the probabilities of the Sacramento River exceeding a 79,000 CFS release from Shasta Dam.

##### E. WILDLIFE AND VEGETATION

1. Consider the preservation of wildlife and vegetation where feasible as part of development approval.

##### F. MINERALS

1. Adopt a surface mining reclamation ordinance for gravel extraction similar to the model ordinance provided in the technical appendix.



#### G. AIR QUALITY

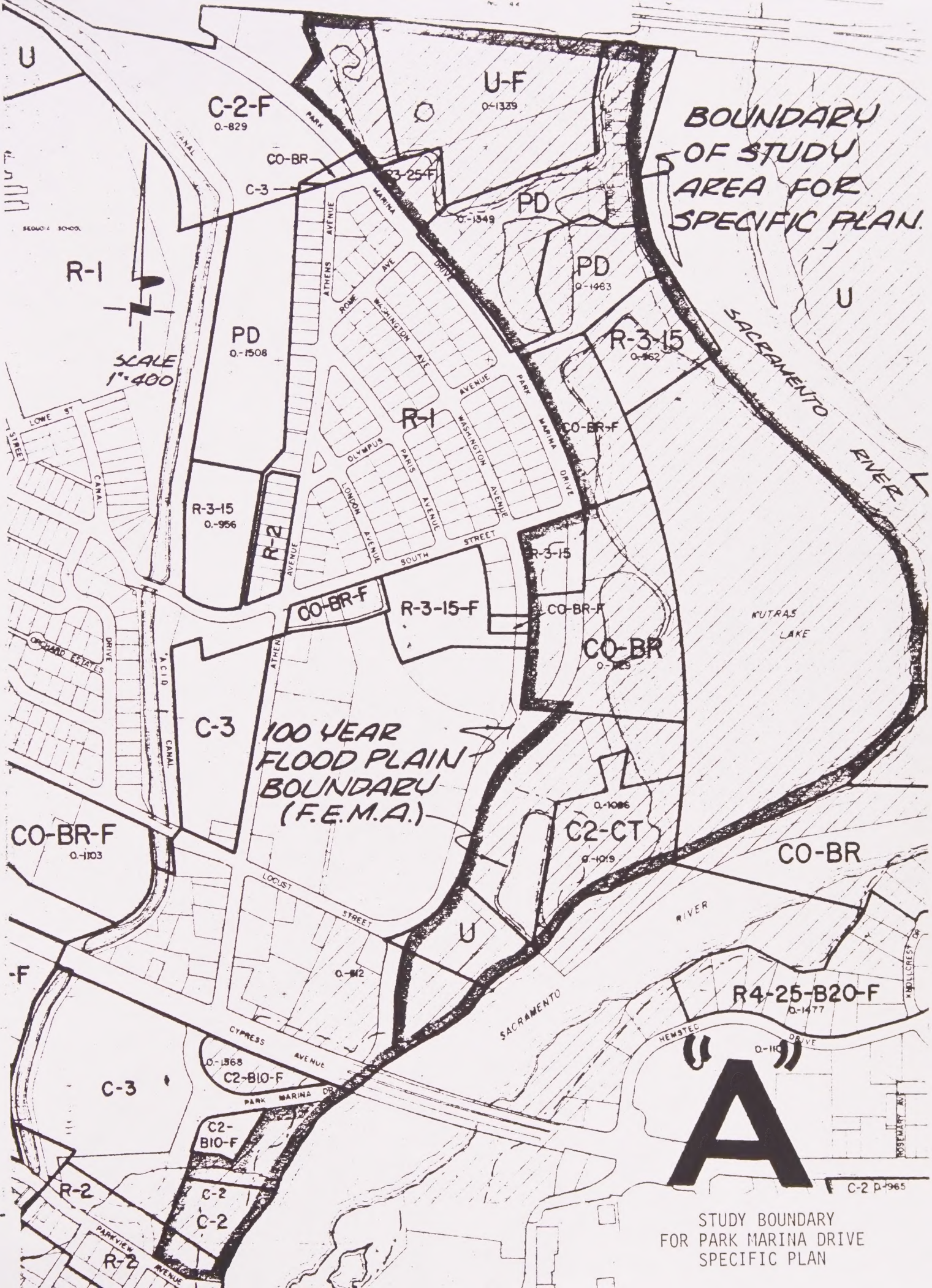
1. Promote the use of the public-transit system through a vigorous advertising program.
2. Encourage property owners adjoining unpaved roads within areas that are requesting annexation to form a district for street paving prior to annexation.
3. Revise the existing grading ordinance to include dust-control standards which implement the policies noted on page 19.
4. Adopt a parking standard that requires the planting and continual maintenance of one 15-gallon tree for every ten parking spaces and one tree for every five parking spaces in excess of the first ten spaces.

#### H. OPEN SPACE

1. Adopt the land-use classifications for open space provided on pages 21 and 22 as part of the Land Use Element.
2. Continue with the City's vigorous efforts to obtain open space by easement and fee dedication.
3. Adopt an open-space district similar to the model in the technical appendix.

#### J. PARK MARINA DRIVE

1. Adopt a specific plan for properties on the west bank of the Sacramento River between Highway 44 and Parkview Avenue. The goal of the plan shall conform to the goal statement noted on page 23 of the Element.



BOUNDARY  
OF STUDY  
AREA FOR  
SPECIFIC PLAN.

100 YEAR  
FLOOD PLAIN  
BOUNDARY  
(F.E.M.A.)

**A**

STUDY BOUNDARY  
FOR PARK MARINA DRIVE  
SPECIFIC PLAN

